

SUMMARY OF CLAIMS

Claims 1-2 (canceled).

Claim 3 (previously amended): The semiconductor device according to claim 16 or 17, wherein the electrodes are formed from an electrode material of Cu or a Cu alloy, Al or an Al alloy, or Au or an Au alloy.

Claim 4 (original): The semiconductor device according to claim 3, wherein the electrodes each comprise a layer of an electrode material composed of Al or an Al alloy, and at least one metal layer or metal alloy layer laminated to the electrode material layer and having a melting point higher than the electrode material.

Claim 5 (original): The semiconductor device according to claim 4, wherein the at least one layer laminated to the electrode material layer is formed from a metal selected from Ti, W, Ni, Cr, Au, Pd, Cu, Pt, Ag, Sn or Pb or an alloy of these metals.

Claim 6 (original): The semiconductor device according to claim 5, wherein the at least one layer laminated to the electrode material and contacted with the electrode material layer is formed from Ti, W, Ni, Cr, Pd, Cu or Pt, or an alloy of these metals, and the at least one layer farthest from the electrode material layer contacted with the low melting point metal ball is formed from Ni, Au, Pd, Cu, Pt, Ag, Sn or Pb, or an alloy of these metals.

Claims 7-15 (canceled).

Claim 16 (currently amended): A semiconductor device comprising electrodes formed on a [semi-conductor]

semiconductor chip, and bumps each consisting of a spherically formed metal ball having a given size, and adhesive bonded to the electrodes (8) for the attachment of the bumps, wherein each electrode (8) includes a layer of an electrode material (5) and at least one layer (6, 7) laminated to the layer of the electrode material (5) to avoid deterioration of bonding such that the at least one layer (6, 7) has peripheral dimensions substantially the same as or larger than those of the electrode material (5);

wherein the metal balls are only adhesive bonded to the electrodes with a flux without reflowing. [;and]

[said semiconductor device is to be mounted on a substrate by flip chip bonding wherein the electrodes of said semiconductor device are directly connected to electrode terminals on the substrate through bump material.]

Claim 17 (currently amended): A semiconductor device comprising electrodes formed on a semiconductor chip, and bumps each consisting of a spherically formed metal ball having a given size, and adhesive bonded to the electrodes (8) for the attachment of the bumps, wherein each electrode (8) includes a layer of an electrode material (5) and at least one layer (6, 7) laminated to the layer of the electrode material (5) to avoid deterioration of bonding such that at least one of the at least one layer (6, 7) has a thickness which is smaller than that of the electrode material (5) and the at least one layer (6, 7) has peripheral dimensions substantially the same as or larger than those of the electrode material (5);

wherein the metal balls are only adhesive bonded to the electrodes with a flux without reflowing. [;and]

[said semiconductor device is to be mounted on a substrate by flip chip bonding wherein the electrodes of the semiconductor device are directly connected to electrode terminals on the substrate through bump material.]